



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

in nature these salts are withdrawn from the water, as the season advances, by the higher plants.

THE SPIROCHAETS.

In the Q. J. M. S., April, 1911, Dobell expresses the view that the organisms recently included under the term "Spirochaets" may properly be embraced in a single group for which he proposes the name Spirochaetoidea. Under this grouping he includes three genera, as follows:

1. *Spirochaeta*,—free-living, aquatic spirochaets.
2. *Treponema*,—parasitic in various animals; e. g., the syphilis organism, the organism of relapsing fevers, etc.
3. *Cristispira*,—parasitic in the intestine and cystalline style of Lamellibranchs.

The author holds that the Spirochaetoidea, as thus constituted, should stand as a separate group of Protista—distinct from the Protozoa, the Bacteria, and the Cyanophyceae.

CYTOLOGY OF BACTERIA.

Dobell (Q. J. M. S., April, 1911) has an elaborate paper dealing critically with the cell-structure of bacteria. He makes the point that the most extended studies of bacteria have been made by bacteriologists, who are interested primarily in the diagnostic and ecological (physiological) qualities, and their technic has been elaborated with this in view rather than to display the cytological peculiarities. After a historical review of the sharp divergences of opinion due to the results of these methods, he gives an account of his own studies on numerous species of bacteria.

He concludes that bacteria are all nucleated cells, and that the nuclear matter may differ in different species and at different parts of the life-cycle of one species. These nuclei may be: (1) a system of distinct granules; (2) a filament; (3) larger dense mass of nuclear substance; (4) irregular branches or anastomosing strands; and

probably (5), in some instances, in the form of a vesicle similar to that found in higher cells.

ALGAE OF MISSOURI BOTANICAL GARDEN.

Ada Hayden (Rept. Mo. Botan. Garden, 1910) gives an account of the algae found in the pools, streams, etc., of the Missouri Botanical Garden. Preceding the systematic account is a description of the conditions in the garden and an analysis of the habitats of the algae. The field is peculiarly varied and rich, and the flora correspondingly so.

EDINGER'S DRAWING AND PROJECTION APPARATUS.

This apparatus was principally designed to facilitate the drawing of microscopic objects, up to even comparatively high magnifications, an image of the object being formed by direct projection on the drawing surface, where it may be traced with pencil or pen.

It is likewise adapted for throwing microscopic objects as well as lantern slides on the screen, by simply turning the entire apparatus into a horizontal position. It is also available for micro-photographic work, micro-photographs being taken by means of a camera, which is fitted with a dark slide accommodating plates up to 24x30 cm (9½x12 inches).

To obtain a sharp focus the bellows may be instantly detached from the dark slide holder, the image then appearing on a paper screen, which slides into the plate holder as a substitute for the ground glass focusing screen.

For all the foregoing work a powerful illuminant is essential, therefore the apparatus is supplied with a hand-feed, electric arc lamp taking 4 amperes. This lamp differs from most patterns in use in that the carbons are at right angles to one another, the positive being mounted in line with the optical axis of the instrument, such arrangement not only increasing the illuminating power by approximately 50%, but at the same time obviating almost entirely the unsteadiness usually found in other arc lamps. It can be run, with a suitable small rheostat, on any ordinary house current, direct or alternating.